

# Public Facilities



DEFINITION: Coordinating, locating, and delivering facilities and services in a manner that best supports the existing and proposed land uses.



## REPORT COMPONENTS:

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### Affected City Departments:

*Community Development*  
*Engineering*  
*Public Works*  
*Police*  
*Library*

### Implementation Documents:

*Title 18*  
*Public Facilities Plan*  
*Library Strategic Plan*  
*Municipal Code*  
*Community Investment Program*

The “Public Facilities Topic Report” provides baseline technical data for the 2027 Tigard Comprehensive Plan Update. It will be included in a final document entitled “State of the City 2006: Current Conditions.” This report assesses current City of Tigard conditions for Public Water Infrastructure, Public Safety, and Community Facilities. It updates the following chapters in the City of Tigard’s 1983 Comprehensive Plan, Volume 1: Public Facilities and Services. This information establishes a baseline for the year 2006, which will form the foundation for updated Comprehensive Plan policies and actions.

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# PUBLIC FACILITIES

## OVERVIEW

Public Facilities addresses the appropriate coordination, location, and delivery of facilities and services in a manner that best supports the existing and proposed land uses. The collective actions of the City and its 45,500 residents and businesses, as well as future growth and development, can impact public facility quality and capacity. The City and region have developed systems to manage development's impacts in order to maintain and improve infrastructure and service delivery. This includes maintenance and expansion of public and private facilities to support a certain amount of development without detrimental effects and avoiding degradation. These principles are based on Oregon Statewide Planning Goals 8 and 11:

- **Goal 8: Recreational Needs**
  - *To satisfy the recreational needs of the citizens of the state and visitors and, where appropriate, to provide for the siting of necessary recreational facilities including destination resorts*
- **Goal 11: Public Facilities and Services**
  - *To plan and develop a timely, orderly, and efficient arrangement of public facilities and services to serve as a framework for urban and rural development*

The City must ensure that future development, when combined with the existing development, efficiently maintains a level of facilities and services that does not threaten or violate applicable rules, statutes, or standards. This report establishes a baseline of existing conditions in 2006, using maps, data and a review of existing plans, statutes and standards. It is designed to update the original 1983 sections "Public Facilities and Services" in the existing Vol. 1 of the Comprehensive Plan. This report will aid the City as it updates its Comprehensive Plan policies and plans for future development.

## DATA SUMMARY

Three types of facilities are considered in this report: Public Water, Public Safety, and Community. Although presented independently, the conglomeration of the facilities contribute to the community's quality of life. Additionally, some of the facilities and infrastructure cross jurisdictional boundaries or are provided by districts and private companies. This requires collaboration in the planning efforts by the various organizations involved.

- **Public Water Infrastructure.** This section focuses on wastewater, stormwater, and drinking water and the current and potential impacts from land use, businesses, residents, and City government.
- **Public Safety.** This section focuses on police and fire protection services and the current and potential impacts from growth and development.
- **Community Facilities.** This section focuses on parks and recreation, schools, library, local government facilities, and franchise utilities that are keys to the community's day to day operations and opportunities.



## O V E R V I E W

Good public water infrastructure is essential for clean drinking water, managing stormwater drainage, and for collecting and treating wastewater. Residents rely on these public services to not only meet their daily needs, but to also protect their health and welfare. The maintenance of these systems preserves their current function for the community, but coordinated planning efforts are also needed to accommodate future growth and development. This planning is critical to ensure that infrastructure expansion is performed in an orderly and logical manner for the efficient use of the land.

The City-owned and operated stormwater and wastewater infrastructure are part of systems that rely on regional collaboration and partnerships. This regional approach is led by Clean Water Services (CWS), a public utility committed to protecting water resources in the Tualatin River Watershed. The CWS service boundary encompasses urban Washington County and contains 12 member cities, including Tigard.

CWS holds the basin-wide permit required by the Federal Clean Water Act for stormwater and wastewater discharges. To comply with the permits, CWS prepares plans that outline the best management practices for infrastructure design, construction, and maintenance and coordinates the implementation of the plans through Intergovernmental Agreements (IGA) with the member cities. The stormwater plans are important for water quality protection and flood control, while the wastewater plans ensure its proper collection, treatment, and disposal. (More information about storm and wastewater can be found in the Environmental Quality section of the Comprehensive Plan)

In addition to managing storm and wastewater, the City must ensure that the community has clean and safe potable water for its use. Residents are currently served by two different water providers. The northeast corner of the City (east side of Highway 217) is served by the Tualatin Valley Water District (TVWD), while the remainder of the City is served by the Tigard Water Division. The Tigard Water Division also provides water to Durham, King City, and unincorporated Bull Mt. The City has no role in the operation or management of the TVWD.

The City's Public Works Department houses the Tigard Water Division and is responsible for the planning, maintenance, and expansion of infrastructure, which includes City-owned reservoirs, wells, water lines, pumps, and supply lines. Although the City owns a few wells, nearly 90% of the water supply is purchased from wholesale water providers. This lack of a City-owned supply has been identified as an important issue for the future and three long-term supply feasibility studies are in progress. The studies are in collaboration with neighboring jurisdictions and will evaluate various options for partnerships in securing a long-term supply.

Funding for public infrastructure maintenance and expansion is primarily from system development charges and service fees. Wastewater and stormwater infrastructure can also be financed by developers during the construction process. The City's Community Investment Program (CIP) is the primary vehicle through which the various stormwater, wastewater, and water distribution plans are implemented.



## I N V E N T O R Y

### STORMWATER SERVICES

The applicable rules, statutes and plans that impact stormwater services within the City include:

1. Clean Water Act
2. Oregon Revised Statute 468b: Water Quality
3. Oregon Administrative Rule 340
4. Clean Water Services MS4 Stormwater Management Plan
5. Clean Water Services Design and Construction Standards
6. Fanno Creek Watershed Management Plan
7. Tigard Community Development Code

The City stormwater infrastructure is a mix of natural and piped systems. As with most urban areas, the reliance on piped stormwater is crucial to transport the water to the natural systems and move it out of the community. This aligns with the primary objectives of stormwater management services within the City of Tigard; the protection of water quality and flood control. To accomplish these objectives, the City collaborates with Clean Water Services (CWS) in the planning and management of the system. The plans currently used for City efforts are the CWS Stormwater Management Plan (SWMP), which addresses water quality protections, and Fanno Creek Watershed Management Plan (Fanno Plan), which addresses flood control in the City.

#### Stormwater Management Plan

The Stormwater Management Plan is submitted by CWS to the Oregon Department of Environmental Quality (DEQ) as a requirement of the combined National Pollutant Discharge Elimination System (NPDES) and Municipal Separate Storm Sewer System (MS4) permits.

The SWMP is revised on a five-year cycle and was last updated in spring 2006. It outlines the best management practices (BMPs) undertaken by CWS and member cities to ensure compliance with the Clean Water Act to the maximum extent practicable. BMPs strive to improve the design, performance, and maintenance of the system. To implement the plan, the City has an inter-governmental agreement (IGA) with CWS as a “self-service provider”. This designation means the City has operation and maintenance authority over storm drain systems, water quality systems, and roadside ditches under City jurisdiction. The IGA outlines the CWS work program standards that must be followed by the City. Current maintenance programs are shown in Table 1-1. City stormwater infrastructure that is subject to the IGA maintenance programs can be found in Table 1-2.

#### Stormwater

Precipitation that accumulates in natural and/or constructed storage and stormwater systems during and immediately following a storm event

#### Stormwater management

Functions associated with planning, designing, constructing, maintaining, financing, and regulating the facilities (both constructed and natural) that collect, store, control, and/or convey stormwater

#### Stormwater Quality Facility

Treats run-off from impervious surfaces to remove pollutants before releasing the water into a natural water system

#### Stormwater Quantity Facility

Reduces the peak flow from a storm event by collecting run-off from impervious surfaces and releasing the water slowly over time



## 1. Public Water Infrastructure

The Stormwater Management Plan also follows an adaptive management process that allows CWS and its member cities to regularly evaluate the plan strategies. Strategies not performing as well as anticipated can be adjusted and applied to the BMPs. The changes resulting from the adaptive management are documented in annual reports to the State Department of Environmental Quality.

Table 1-1. Scheduled Maintenance of Stormwater System	
Program	Cycle
Video Inspection of Pipe Interiors	7 years
Roadside Ditching & Inspection	5 years
Line Cleaning & Repair	4 years
Manhole/Catch basin Inspection/Cleaning	1 year
Water Quality Facility Inspection/Maintenance	Monthly
Leaf Pickup	Seasonal
Source: CWS/Tigard IGA	

### Fanno Creek Watershed Management Plan

The 1997 Fanno Creek Watershed Management Plan, prepared by CWS for all jurisdictions within the basin, is the principal plan for drainage in the City. The Fanno Plan covers 85% of Tigard (the remaining 15% of the jurisdiction drains directly to the Tualatin River) and has been adopted by the City. Included in the plan is an inventory of drainage structures, an evaluation of their adequacy of capacity, and recommended City infrastructure improvements to reduce flooding.

Table 1-2. City Stormwater Infrastructure		
Type	Number	Size
Stormwater Pipe	n/a	113.4 miles
Catch Basins	3975	n/a
Outfalls	588	n/a
Water Quality Facilities		
Pond (wet or dry)	40	16.0 acres
Swale	23	12.1 acres
Filter System	5	n/a
Detention Tank	1	n/a
Detention Pipe	10	n/a
Source: City of Tigard Public Works		

The Fanno Plan divided the recommended projects by priority, with the highest being the replacement of bridges and culverts determined to have inadequate openings to pass the 100-year flood. Three bridges spanning Fanno Creek and one culvert on Summer Creek were rated as high priority. Medium priority projects are replacing inadequate culverts along tributary streams. The Fanno Plan recommended that culvert replacements should be evaluated for the need of fish passage as required by the Endangered Species Act. A number of low priority projects were recommended, with two bridge replacements on Ash Creek included. Funding for these projects is available through the Storm Sewer Fund that results from the collection of system development charges.

### Other Policies

In addition to the operation and maintenance of the existing stormwater system, the City is responsible for adopting land use policies and regulations that implement statewide planning and land use goals to protect water quality and habitat. These policies and regulations must ensure that the impacts of new development on the stormwater infrastructure (natural and human-made) are minimized. This includes the protection of resources and ecosystem function, reducing the amount of stormwater run-off and impervious surfaces, and minimizing pollutants entering the surface water system from stormwater run-off. One of the greatest impacts on stormwater infrastructure is the amount of impervious surface in a watershed. Impervious surfaces increase run-off into the stormwater system and increase the peak flow of storm events. Reducing the impervious surface coverage will encourage natural filtration and help to reduce the stormwater infrastructure needs, as well as reduce problems associated with scouring and erosion of stream channels from storm events.

Although CWS does not have land use authority, they have been involved in reducing the impacts of stormwater by developing design and construction standards that have been adopted by and are



## 1. Public Water Infrastructure

implemented by the City. The standards outline appropriate stormwater infrastructure and design that is needed to accommodate new development. This includes stormwater quality and quantity facilities, and the protection of sensitive areas such as floodplains, wetlands, and riparian corridors. These standards ensure the pretreatment of stormwater before being discharged into any surface water and help to reduce peak flows of community streams. A city engineer performs the task of evaluating the stormwater infrastructure design during the development review process to make sure the standards are met.

In addition to the CWS design and construction standards, the City has adopted voluntary habitat friendly development provisions that may be utilized during new development. The provisions seek to protect wildlife habitat that has been identified within the community and includes low impact development practices that are meant to reduce stormwater flow. The primary focus of the low impact practices includes opportunities for reducing impervious surface coverage during development.

### Funding

Funding for the stormwater system is generated from two sources. The first is from System Development Charges (SDCs) that are assessed on new developments that cannot provide their own water quantity and quality facilities. The money is placed in the Storm Sewer Fund, which is managed by CWS and used for capital projects included in plans formulated by CWS. The second, the Surface Water Management Fee, is a monthly charge that is collected on utility bills. The City keeps 75% of this fee for operations and maintenance of the stormwater infrastructure.

## WASTEWATER SERVICES

The applicable rules, statutes and plans that impact wastewater services within the City include:

1. Clean Water Act
2. Oregon Revised Statute 468b: Water Quality
3. Oregon Administrative Rule 340
4. Clean Water Services Collection System Master Plan
5. Clean Water Services Design and Construction Standards
6. Tigard Community Development Code

Wastewater services within Tigard are managed through an agreement between the City and CWS. The agreement assigns the City enforcement of design and construction standards, rules and regulations, and rates and charges governing the use of, and connection to, the wastewater system. In return, CWS acts as the regional wastewater authority that provides, owns, and maintains sewer lines with a diameter of 24 inches or greater (the City owns less than 24-inch lines), as well as pump stations and treatment facilities. CWS is also responsible for the planning of wastewater collection in the Tualatin River basin.

The CWS Collection System Master Plan Update (2000) is the current plan for wastewater collection in the Tualatin basin, including the City of Tigard. The primary focus of the plan was to analyze all sanitary sewer lines at least ten inches in diameter and eight inch lines with known capacity problems. Fifteen inch diameter or greater trunk lines required to serve areas without service were also identified. The analysis found that all existing lines within the City of Tigard have adequate capacity to accommodate anticipated growth based on Comprehensive Plan designations. This means that any new lines will be the responsibility of the City as no 24 inch or greater pipes are necessary. An update to the Collection System Master Plan is scheduled for completion in 2007.



## 1. Public Water Infrastructure

In order to meet service demands of residents, the City evaluates adequacy of capacity and has also developed the Sanitary Sewer Facility Plan Map. The evaluations are used to prioritize projects and schedule improvements to the system through the Community Investment Program (CIP). The facility map is continuously revised and shows the locations of all current and proposed lines within the City. The map allows the City to plan for new construction and also identify developed neighborhoods not currently being served by the wastewater system. As of October 2006, there were approximately 12,671 connections to the City's wastewater system.

The Neighborhood Sewer Extension Program was established in 1996 by the City to extend public infrastructure to unconnected neighborhoods. This program encourages property owners to retire septic systems and connect to the City sewer system. Currently, 29 neighborhoods (589 properties) have been provided the opportunity to connect through the program. Another 17 neighborhoods have been identified as potential participants in the program. The program does require property owners, upon connection, to reimburse the City for a fair share of the total cost. To encourage participation, the City also established the Neighborhood Sewer Reimbursement District Incentive Program that provides options for limiting the financial burden on the property owner. Both programs have been extended to remain in place until infrastructure can be extended to all of the neighborhoods.

The wastewater infrastructure within the City of Tigard is either owned by CWS or the City. CWS owns and operates the Durham Wastewater Treatment Facility. The facility is operating under the basin-wide NPDES permit and is in compliance with Clean Water Act regulations. The City has an IGA with Clean Water Services to perform management and maintenance tasks on City-owned wastewater infrastructure to ensure continued compliance with the regulations. Current maintenance programs outlined in the IGA are shown in Table 2-1 and apply to the 160 miles of wastewater mainline (6 to 21 inches) owned by the City.

In addition to the operation and maintenance of the existing wastewater system, the City is responsible for implementing the CWS design and construction standards. Land use applicants are required to obtain a Public Facility Permit when connecting to City owned wastewater infrastructure and must comply with the design and construction standards as part of the development review process. This function is outlined in the IGA between CWS and Tigard and is carried out by a city engineer.

Table 2-1. Scheduled Maintenance of Wastewater System	
Program	Cycle
Video Inspection of Pipe Interiors	7 years
Line Cleaning and Repair	3 years
Manhole Inspection/Rehabilitation	3 years
Source: CWS/Tigard IGA	

### Funding

Funding for the wastewater system is generated from three sources. First, developers finance the construction of new sewer lines needed to service their new developments. Secondly, during the building permit process a connection fee is collected by the City. Most of the fee is transferred to CWS, but a portion of the fee is retained by the City for system improvements. Finally, the monthly sewer service fee is collected on the utility bill and a portion is retained by the City for operations and maintenance of the wastewater system.



### **WATER DISTRIBUTION SERVICES**

The applicable rules, statutes and plans that impact water distribution services within the City include:

1. Oregon Revised Statute 448 & 536
2. Oregon Administrative Rule 333 & 309
3. City of Tigard Water Master Plan - 2000
4. Tigard Community Development Code
5. Water Operation Manual – City of Tigard Water Division

The Tigard Water Division provides water to most of the City's residents. It also supplies the City of Durham, King City, and the Bull Mountain area of unincorporated Washington County; which is represented by the Tigard Water District. The northeast corner of the City is supplied water by the Tualatin Valley Water District (TVWD), which operates independently from the Tigard Water Division. This provision by two different entities resulted from Tigard expanding its boundaries through annexation. The service areas are shown on Map 3-1.

The TVWD is governed by a five-member Board of Commissioners and operates under the TVWD Water Master Plan/Management Plan (2000). The plan is currently undergoing an update process that will be completed in spring 2007. To implement the plan, TVWD has developed Water System Standards, rules and regulations, and uses a Five-Year Capital Projects Program for direction. TVWD water supply is purchased from the City of Portland under a 10-year contract signed in summer 2006. Additional water comes from the Joint Water Commission (JWC), which is a governmental water purveyor created by the cities of Hillsboro, Forest Grove, Beaverton, and the TVWD.

As of November 2006, TVWD has approximately 1,920 service connections within the City of Tigard. There are 24 covered reservoirs in the TVWD system that can store 53 million gallons of water. Tigard has no role in the operation or management of TVWD, but has collaborated with them on long-term supply studies and is also capable of sharing water in emergency situations.

The City of Tigard Water Division provides potable water to approximately 55,990 people through approximately 17,300 residential, commercial, and industrial service connections. The Tigard Water District was the original supplier, but the City took over the system in 1994. During the transfer of supply responsibilities, an IGA created oversight for the water system through the Intergovernmental Water Board (IGWB), which consists of a member from Tigard, Durham, King City, Tigard Water District, and one at-large member. The IGWB advises Tigard City Council on issues relating to rate setting and water supply. The IGWB was created as a result of the City supplying water outside of its boundaries.

The Water Distribution Hydraulic Study (2000) is the current master plan for the City water supply system. The study provides direction for system improvements and three feasibility studies must be completed before an update is performed:

- Joint Water Supply System Analysis with Lake Oswego
- Willamette Water Supply Consortium
- Joint Water Commission Feasibility Study

The three feasibility studies will help to provide direction for the City's long-term supply options.



## 1. Public Water Infrastructure

The City owns and operates the water distribution system under license from the Oregon Department of Human Services (DHS) and the Oregon Water Resources Department (ORWD). As a requirement of the license, a sanitary survey is performed every three years by DHS. The latest survey was July 2006 and the City water system passed with marks of good operating conditions, good staff, and a well-maintained system.

### Current Supply

The City of Tigard does not own a water source capable of meeting the current and future demands of its residents. In order to meet demand, Tigard purchases nearly 90% of its water from wholesale water providers such as the Portland Water Bureau (PWB). The PWB manages the Bull Run Watershed, a surface water supply, located in the Mount Hood National Forest. In cases of emergency and/or high demand, the PWB also maintains groundwater wells located along the Columbia River. The City signed a 10-year agreement in summer 2006 to continue purchasing water from PWB. In addition, the City purchases water from the City of Lake Oswego, which draws its water from the Clackamas River Basin.

During periods of high water demand, the City can supplement its supply with water from City-owned aquifer storage and recovery (ASR) wells and native groundwater wells. Additional supply is available for purchase from the Joint Water Commission (JWC). Water from the JWC is delivered via the City of Beaverton system; making it Tigard's only fluoridated supply.

In 2005, the Oregon Departments of Human Services and Environmental Quality conducted a source water assessment on Tigard's groundwater wells. Within the Tigard water service area, 50 sites were identified as potential sources of drinking water contamination if managed improperly.

The City also has system inter-ties with Beaverton, Tualatin, and the Lake Grove Water District that allow the City to supply them water under emergency conditions.

### Current Storage

The City of Tigard's water system contains 13 reservoirs with a total combined storage capacity of approximately 24.5 million gallons. Table 3-1 presents a summary of the City's storage reservoirs.

The City is also in the planning stages of constructing a three million gallon underground reservoir on a recently purchased piece of property along Bull Mountain Road. The reservoir site may also double as a park in the future.

### Current Distribution

The City of Tigard's water distribution system contains eight pump stations, which are presented in Table 3-2. The pump stations help to distribute potable water to residents around the City.

Table 3-1. City of Tigard Water Storage Reservoirs			
Name	Capacity (mg)	Overflow Elevation (ft)	Pressure Zone
High Tor A	1.10	713	713-foot
High Tor B	1.00	713	713-foot
High Tor C	0.20	713	713-foot
10 MG	10.00	475	410-foot
Reservoir #4	1.00	417	410-foot
Baylor St. A	1.00	416	410-foot
Baylor St. B	1.10	416	410-foot
Reservoir #2	0.28	413	410-foot
Reservoir #3A	0.80	412	410-foot
Reservoir #3B	2.50	412	410-foot
Reservoir #1A	1.00	410	410-foot
Reservoir #1B	1.00	410	410-foot
Menlor	3.50	410	410-foot
Source: Tigard Water Division			



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Table 3-2. City of Tigard Pump Stations			
Name	Horsepower	Capacity (gpm)	Supply To
Canterbury Pump Station	50	1,000	550-foot High Pressure Zone
ASR-1 & Reservoirs	50	1,000	
Pump Station #2	100	2,000	10 MG Reservoir
	150	1,400	High Tor Reservoirs
SW 132 <sup>nd</sup> Ave Pump Station	50	350	High Tor Reservoirs
	50	350	
Transfer Pump Station	200	2,000	High Tor Reservoirs
ASR-2 & Reservoir	350	1,736	10 MG Reservoir
High Tor Pump Station #1	25	800	713-foot High Pressure Zone
	25	800	
High Tor Pump Station #2	25	800	713-foot High Pressure Zone
	25	800	
	25	800	
	25	800	
Bonita Road Pump Station	100	1,755	410-foot Pressure Zone
	100	1,755	
	100	1,850	
Hunziker Pump Station	30	1,400	410-foot Pressure Zone
Source: Tigard Water Division			

The water service area distribution system is also composed of various pipe types in sizes up to 36 inches in diameter. The total length of piping in the service area is approximately 209 miles. The pipe types include cast iron, ductile iron, steel and copper. The majority of the piping in the system is cast and ductile iron piping. Table 3-3 presents a summary of pipe lengths by diameter.

### Current Demand

The Water Division has identified a number of differing methods for calculating water consumption in the service area. Each has its pros and cons, but all methods show a decrease in total consumption and per capita consumption from the period 2001 to 2005. Table 3-4 shows total consumption based on the City's Utility Billing database. Table 3-5 shows the number of accounts receiving water from the City.

Table 3-3. City of Tigard Pipe System	
Pipe Diameter (inches)	Estimated Length (miles)
4-inch or less	4
6-inch	62
8-inch	65
10-inch	2
12-inch	49
16-inch	9
24-inch	7
36-inch	1
<b>Total Length</b>	<b>209 miles</b>
Source: Tigard Water Division	

Table 3-4. Total Water Consumption (MG) - Tigard Service Area					
Type of Account	2001	2002	2003	2004	2005
Commercial	338	343	341	327	316
Industrial	20	26	19	18	15
Irrigation	64	73	74	70	63
Multi-unit	473	486	444	458	441
Hydrant	0	0	2	13	3
Residential	1,240	1,292	1,315	1,301	1,254
<b>Total (MG)</b>	<b>2,135</b>	<b>2,220</b>	<b>2,195</b>	<b>2,186</b>	<b>2,093</b>
Source: Tigard Water Division					



## 1. Public Water Infrastructure

Table 3-5. Total Number of Accounts - Tigard Service Area					
Type of Account	2001	2002	2003	2004	2005
Commercial	636	640	644	646	648
Industrial	14	14	14	14	14
Irrigation	138	147	152	163	177
Multi-unit	594	596	592	593	595
Hydrant	0	0	12	7	6
Residential	14454	14713	15087	15363	15715
<b>Total</b>	<b>15,836</b>	<b>16,110</b>	<b>16,501</b>	<b>16,786</b>	<b>17,155</b>
Source: Tigard Water Division					

Using the Utility Billing data and population served by the Tigard Water Division, the gallons per capita per day (gpcd) can be calculated. Table 3-6 shows the results.

Table 3-6. Per Capita Water Consumption - Tigard Service Area					
	2001	2002	2003	2004	2005
Population	50,750	51,798	52,846	53,894	54,942
Multi-unit & Residential Consumption (MG)	1,713	1,778	1,759	1,758	1,695
Multi-unit & Residential gpcd	<b>92</b>	<b>94</b>	<b>91</b>	<b>89</b>	<b>85</b>
Total Consumption of All Uses (MG)	2,135	2,220	2,195	2,186	2,093
Total gpcd	<b>115</b>	<b>117</b>	<b>114</b>	<b>111</b>	<b>104</b>
Source: Tigard Water Division					

Repairs made in water line leaks, rising costs, and the Water Division's Conservation Program have contributed to the decrease in per capita water use. Both the Conservation Program and rising costs could have a continued effect on water demand capacity.

### Future Demand

The Water Division produced the Water Demand Forecast Report (Sept 2006) that used projected population growth and anticipated per person water demand to forecast future demand. The data used for the forecast includes:

- 10 year period (1996-2005) average dwelling unit per acre density is 6.8 units/acre
- 5 year period (2001-2005) average dwelling unit per acre density is 8.2 units/acre
- State Metropolitan Housing Rule requires Tigard to provide for an overall dwelling unit per acre density of 10 units/acre
- The number of units is multiplied by the average population density of 2.5 persons per unit (Washington County)
- Long Range Planning has identified 570 buildable acres within Tigard/Bull Mountain Area; 32 buildable acres within Durham and 107 buildable acres within King City; Total buildable acres is estimated at 709 acres (build out)
- Year 2005 calculated water demand is 110 gallons per person per day average
- Current 5 year (2001-2005) average water demand is 120 gallons per person per day average

## 1. Public Water Infrastructure



The results of the forecast are:

- Population growth from 12,053 to 17,725 persons (17,725 population increase would require all available lands built to 10 unit/acre density) within the next 10 years is possible
- Water demand per person could range from 110 to 120 gallons per capita per day
- Annual water demand could range from 2,732 million gallons to 3,229 million gallons (3,229 MG is based on the max density of 10 unit/acre)
- Average Daily Demand could range from 7.5 mgd to 8.8 mgd (8.8 mgd maximum based on 10 unit/acre density and 120 gpcd)
- Peak Demand Day estimates range from 15.6 mgd to 18.4 mgd (18.4 mgd maximum based on 10 unit/acre density and 120 gpcd)
- 3 Day Peak Demand estimates range from 15.0 mgd to 17.7 mgd (17.7 mgd maximum based on 10 unit/acre density and 120 gpcd)

### Funding

The City of Tigard Water System is set up as an enterprise fund. The budget needs no money from the City general funds and operates based solely on revenue the Water System creates. System Development Charges for new construction and connections, and rates for water consumption are the two main sources of revenue for the budget.



## KEY FINDINGS

- The expansion and maintenance of stormwater, wastewater, and drinking water infrastructure are important factors affecting growth and development.
- Objectives of the stormwater system are the protection of water quality and flood control and are addressed through the CWS Stormwater Management Plan and the Fanno Creek Watershed Management Plan.
- The City coordinates the expansion, operation, and maintenance of stormwater and wastewater infrastructure through an IGA with CWS as a “self-service provider”.
- The City has adopted and is implementing the CWS Design and Construction Standards.
- Impervious surfaces, undersized bridges and culverts, and inadequate infrastructure contribute to localized flooding.
- Voluntary habitat friendly development provisions have been adopted that have the ability to reduce stormwater impacts.
- Stormwater and wastewater infrastructure is funded from system development charges, service fees, and private developments.
- CWS owns and maintains sewer lines with a diameter of 24 inches or greater, while the City owns and maintains lines less than 24 inches.
- The CWS Collection System Master Plan Update (2000) is the current plan for wastewater collection in the Tualatin basin, which includes Tigard, and found that existing lines within the City of Tigard have adequate capacity to accommodate anticipated growth.
- The Neighborhood Sewer Extension Program extends public infrastructure to unconnected neighborhoods.
- The Neighborhood Sewer Reimbursement District Incentive Program provides options for limiting the financial burden on property owners who participate in the Extension Program.
- City owned wastewater infrastructure must comply with the design and construction standards as part of the development review process.
- The Tigard Water Division and the TVWD both supply water to Tigard residents.
- The City of Tigard Water Division provides potable water to approximately 55,990 people through approximately 17,300 residential, commercial, and industrial service connections.
- The Intergovernmental Water Board provides oversight for the Tigard water system.
- The Water Distribution Hydraulic Study (2000) is the current master plan for the City water supply system.
- Tigard does not have a long-term water supply and must purchase nearly 90% of its water from wholesale water providers.
- Three feasibility studies are in progress and will help to provide direction for the City’s long-term supply options.
- During periods of high water demand, the City can supplement its supply with water from City-owned aquifer storage and recovery (ASR) wells and native groundwater wells.
- The City has experienced a decrease in total and per capita consumption from 2001 to 2005 due to repairs made in water line leaks, rising costs, and the Water Division’s Conservation Program.
- Future annual water demand could range from 2,732 to 3,229 million gallons.
- The City of Tigard Water System is set up as an enterprise fund, operating solely on revenue the Water System creates.



### O V E R V I E W

Public safety is a critical component of a livable community. There must be adequate and effective services to respond to emergencies in a timely and efficient manner. This not only applies to the current population and built environment within the City, but also to new growth and development.

The Tigard Police Department provides police services, while Tualatin Valley Fire & Rescue (TVFR) provides fire protection and emergency services for the community. Both have an intergovernmental agreement with the Washington County Consolidated Communications Agency (WCCCA) for 911 service and public safety communications. TVFR is a fire district that covers 210 square miles, has a five-member board of directors and is funded through a permanent tax rate on properties within the district.

One way for Tigard Police and TVFR to gauge their level of service is by tracking their incident response time. Both are doing a fair job of responding to calls for service, but TVFR has found a section of the City that could be better served. For that reason, TVFR has purchased property and is planning a new station that will decrease the response times to those neighborhoods.

Since growth and development will impact both fire and police services, Tigard Police and TVFR have the opportunity for review and comment during the land use application process. They evaluate proposed projects to ensure an adequate level of service exists for the development and no impediments will occur to hamper the ability to perform their functions. For TVFR, street design and placement is very important for access and egress of its equipment. A well connected street network is also essential to improving response times, for both fire and police services. The placement of fire hydrants is mandated during the application process as well as an evaluation of adequate water supply and pressure.

In addition to providing a built environment that is accessible for safety equipment, the City has adopted the Oregon statewide minimum fire code and performs inspections on new construction. The fire code outlines the required equipment for various development types and sizes. Homeowners can voluntarily take steps to reduce risk of fire by installing equipment and providing a defensible space around structures that are located in an area at risk for wildfire.



# I N V E N T O R Y

## POLICE SERVICES

The applicable rules, statutes and plans that impact police services within the City include:

8. Tigard Municipal Code Title 2.28 and 2.30
9. Oregon Revised Statute 190

The Tigard Police Department provides police services to the community. As of October 2006, the Police Department employed 49 sworn officers, 15 sworn management personnel (Chief, Assistant Chief, Captain, 4 Lieutenants, and 8 Sergeants), 16 full-time and 4 part-time non-sworn personnel. This equates to a force of 1.4 officers/1000 population. The Police Department operates out of City Hall, with an office in each school that has a School Resource Officer and a satellite office in the security area of the Washington Square Mall.

Tigard Police not only provides protection for approximately 46,000 community residents, but also the estimated 50,000 daily visitors to the Washington Square Mall. They also offer a number of programs and information that supports their community policing philosophy. Community policing aims to combine the efforts and resources of police, local government, and community members in a collaborative effort to identify crime and search for solutions. The services include:

- Youth Services Program
- Crime Prevention Program
- Community Policing
- Traffic Control
- Citizens Police Academy

Additionally, an intergovernmental agreement (IGA) is maintained for mutual aid, mutual assistance, and interagency cooperation among law enforcement agencies in Washington County. This IGA means that Tigard officers are sometimes dispatched to unincorporated islands within the City, unincorporated Bull Mountain, and the Metzger area.

Emergency dispatch operations are provided by the Washington County Consolidated Communications Agency (WCCCA). The City has an IGA with WCCCA to provide 911 service and public safety communications for the Police Department. The average response time for Tigard Police over the previous five years is 4 minutes 12 seconds per call (Source: Tigard Police Department).

In order to ensure a level of service adequate to provide protection services for the community, the Police Department is given the opportunity to review and provide comment on land use applications. This is an important process that allows the City to evaluate impacts of growth and development on police services, as it will place increasing demands on the department. In addition, the Police Department is developing a strategic plan that will outline department needs and provide direction for the future.

Table 4-1 provides data on the number of incident responses by Tigard Police and Table 4-2 provides a breakdown of crime within the City by type.

## 2. Public Safety



Table 4-1. Tigard Police Incident Responses					
	2001	2002	2003	2004	2005
Number of Incidents	45,502	50,403	49,333	53,754	51,062
Number of Reports	7,864	7,474	7,621	8,603	8,800
Number of Citations	n/a	n/a	6,815	6,006	6,800
Source: Tigard Police Department					

Table 4-2. City of Tigard Crime									
	1997	1998	1999	2000	2001	2002	2003	2004	2005
<b>Part I Crimes</b>									
Homicide	0	1	1	0	0	0	1	1	0
Rape	11	15	7	14	12	15	22	15	16
Robbery	59	51	43	33	35	43	31	43	30
Aggravated Assault	56	54	56	49	63	60	43	63	59
Burglary	349	319	342	332	356	297	300	340	309
Larceny	2,433	2,260	1,959	1,882	2,129	1,890	1821	2205	1845
Motor Vehicle Theft	219	229	171	131	187	198	194	193	165
Arson	21	14	12	17	11	15	9	16	16
<b>Part II Crimes</b>									
Simple Assault	221	260	239	188	198	188	184	185	156
Forgery/Counterfeit	308	273	234	239	268	203	134	246	230
Fraud	171	153	168	186	182	141	198	255	224
Embezzlement	34	48	58	57	65	49	46	35	41
Stolen Property	18	21	35	16	12	2	6	10	7
Vandalism	561	502	475	540	594	618	571	578	656
Weapons Law	27	25	40	30	34	38	31	29	16
Prostitution	0	2	0	0	1	1	1	2	2
Sex Crimes	59	45	43	60	71	60	59	49	71
Drug Laws	95	122	276	167	97	115	113	150	116
Gambling	1	0	0	0	0	0	0	0	0
Offense Against Family	22	21	23	24	28	35	33	50	33
DUI	106	174	155	86	98	178	173	173	211
Liquor Laws	46	43	42	25	27	31	38	29	63
Disorderly Conduct	177	185	176	189	226	176	209	331	297
Kidnapping	7	9	19	23	7	14	5	4	6
All Other	248	211	186	187	177	141	119	203	187
Curfew	52	32	34	11	26	23	17	13	62
Runaway	212	153	167	153	96	95	78	105	82
<b>Total</b>	<b>5513</b>	<b>5222</b>	<b>4961</b>	<b>4639</b>	<b>5000</b>	<b>4626</b>	<b>4436</b>	<b>5323</b>	<b>4900</b>
Source: Tigard Police Department									

The crime statistics and incident responses do not show any direct relationship to population increase in the community, so other factors must contribute to crime fluctuations over time.



### FIRE PROTECTION SERVICES

The applicable rules, statutes and plans that impact fire protection services within the City include:

7. Oregon Revised Statute 190
8. Oregon Revised Statutes 476-480
9. Oregon Administrative Rule 837

Fire protection in the City of Tigard is provided by Tualatin Valley Fire & Rescue (TVFR) through an intergovernmental agreement (IGA) with the City. TVFR also has an automatic aid agreement with surrounding fire protection agencies if the need arises in an extreme emergency. The City is served by three fire stations, of which one is located in the City. Station locations, staff, and equipment include:

- Station 51 – 8935 SW Burnham St, Tigard
  - 21 personnel, 3 engines, 1 ladder truck, 1 water truck, 1 EMT road rescue unit
- Station 35 – 17135 SW Pacific Hwy, King City of Tigard
  - 12 personnel, 2 engines, 1 EMT road rescue unit
- Station 53 – 8480 SW Scholls Ferry Rd, Beaverton
  - 12 personnel, 2 engines, 1 hazmat unit

In addition to TVFR equipment and stations, the dependability of fire protection is also based on the distribution and capacity of the City water supply. This includes the fire hydrants needed to access the necessary water to respond to an incident. Currently, the City owns all fire hydrants within Tigard and there are a sufficient number and distribution to help earn the community an Insurance Services Office (ISO) fire insurance rating of 2. The ISO rating is based on:

- How well the fire department receives and dispatches fire alarms (10%)
- Fire Department - personnel, equipment, training, etc. (50%)
- Water Supply – pressure, hydrants, etc. (40%)

The ISO rating ranges from 1 (superb protection) to 10 (no protection). There are no ISO ratings of 1 in Oregon (only 50 nationwide), and 15 communities with an ISO rating of 2.

Emergency dispatch operations are provided by the Washington County Consolidated Communications Agency (WCCCA). TVFR has an IGA with WCCCA to provide 911 service and public safety communications for them. When responding to a 911 call, TVFR has set a response time goal of arriving at the incident within 6 minutes, 90% of the time. This goal was not being met in the neighborhoods located on the eastern and northern slopes of Bull Mountain, so TVFR has purchased property to build a new fire station to better serve these neighborhoods. The property is located at Walnut Street and 124<sup>th</sup> Avenue and TVFR hopes to work with the City to co-development the new station and an expansion of Jack Park. TVFR incident responses can be seen in Table 4-3.

## 2. Public Safety



Table 4-1. TVFR Incident Responses in the City of Tigard						
	2001	2002	2003	2004	2005	2006*
EMS	2,645	2,599	2,712	3,041	2,966	2,630
Fire Alarms	599	562	569	579	576	493
Hazardous Materials	103	87	55	48	55	42
Other	270	262	224	241	198	229
Total	3,617	3,510	3,560	3,909	3,795	3,394
*Through October 23						
Source: Tigard Police Department						

In order to ensure a level of service adequate to provide fire protection services for the community, TVFR is given the opportunity to review and provide comment on land use applications. This process allows TVFR to evaluate the impacts of growth and development on fire protection services and provide suggestions to ensure there are no impediments to their ability to respond to incidents.

One of the more important development issues relating to fire protection is the design and placement of new streets. Street widths must be adequate for fire equipment access and egress. This may sometimes conflict with development that is promoting a pedestrian-friendly environment through narrower streets. A situation such as this presents an opportunity to offer options to meet TVFR standards and development goals. Also, a more connected street network can help provide better service by having multiple routes to access an incident and meet response time targets. TVFR also is responsible for regulating the placement of fire hydrants during the land use process, thus ensuring adequate water supply access for fire suppression efforts.

Appropriate fire detection and suppression equipment installed at the time of development is cost-effective and invaluable in reducing the community's risk to fire. The City has adopted the Oregon statewide minimum fire code (2003 International Fire Code with 2004 Oregon Fire Code Amendments) and performs inspection services for new development. Community residents can take additional measures by following the TVFR Tips for Helping Safeguard Your Home and provide a defensible space around structures that are located in an area at risk for wildfire.



### KEY FINDINGS

- The Tigard Police Department adheres to a community policing philosophy and provides police protection services, crime prevention programs, and information to the community.
- Growth and development will place increasing demands on the Police Department, which currently has an average response time of 4 minutes 12 seconds per call.
- WCCCA provides 911 service for the Police Department and TVFR through an IGA.
- Tigard Police has an IGA to provide services outside the city limits on occasion.
- The Police Department reviews land use applications and provides comments.
- A new Strategic Plan for the Police Department is in the development process.
- TVFR provides fire protection services for the City through an IGA.
- Three TVFR stations serve City residents, with one station located within City boundaries.
- A new TVFR station is planned to be built at Walnut Street/12<sup>th</sup> Avenue.
- The dependability of fire protection is based in part on the distribution and capacity of the City water supply.
- The City owns all fire hydrants within its boundaries.
- The community has an ISO fire insurance rating of 2.
- TVFR is given the opportunity to review and provide comment on land use applications.
- One of the more important development issues relating to fire protection is the design and placement of new streets.
- Street widths must be adequate for fire equipment access and egress, which may conflict with development that is promoting a pedestrian-friendly environment through narrower streets.
- A connected street network can help provide better service by having multiple routes to access an incident and meet response time targets.
- TVFR is responsible for regulating the placement of fire hydrants during the land use process.
- Appropriate fire detection and suppression equipment installed at the time of development is cost-effective and invaluable in reducing the community's risk to fire.
- Providing a defensible space around structures that are located in an area at risk for wildfire is an additional precaution against fire that can be taken by community residents.

### 3. Community Facilities



#### O V E R V I E W

The City of Tigard provides many community services, while special districts and private entities supply a portion of the facilities and services that make the community what it is today. All of these facilities and services must maintain a level of service that is adequate for the current population and, at the same time, must plan for and accommodate future growth and development within Tigard. This is why collaboration during the development process is essential to ensuring the services will be available and funding options will exist to continue with an acceptable level of service.

The City of Tigard owns and operates the community park system, the public library, and a number of facilities that are important to the daily operations of the municipal government. The park system consists of parks, trails, and open space and is highly appreciated by Tigard's residents. They become especially important as the City begins to approach full development. The current park system equates to 3.7 acres of developed area and 4.0 acres of natural area per thousand residents. The City continually looks for available land to provide additional park facilities for the community.

The Tigard Public Library is a new facility that was funded by a community bond measure and opened to the public in 2004. The library offers a wide range of services and programs and acts as a community center for Tigard residents. The library has experienced a significant increase in use since the new facility was opened. Other City-owned facilities are dispersed around the community and house various City personnel and equipment.

Two public school districts serve the City of Tigard's school-age children: Tigard-Tualatin and Beaverton. Only Tigard-Tualatin owns property and operates schools within the Tigard city limits. Both districts have seen steady growth over the years and are an important component of reviewing development applications to ensure school capacity is not exceeded. Additionally, this working relationship is important to finding appropriate sites for new school facilities that will limit the impacts to the neighborhood and traffic flow.

Natural gas, electricity, and telecommunication services are provided by private utility companies that operate with a franchise agreement with the City. They pay an annual right-of-way fee to the City and coordinate repairs and extensions of their infrastructure with the City. This prevents uncoordinated utility installations in the public right-of-way, which may result in multiple street cuts and increased public costs to maintain curbs, gutters, streets, and sidewalks. The Tigard Development Code outlines the placement of utilities within the right-of-way, encourages the collocation of wireless equipment, and aims to limit the visual impacts of wireless communication towers.



### 3. Community Facilities

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## I N V E N T O R Y

### **PARKS AND RECREATION**

The applicable rules, statutes and plans that impact parks and recreation services within the City include:

10. City of Tigard Parks Master Plan

This section was reviewed by the Planning Commission at its November 27<sup>th</sup> meeting and will be inserted after final edits are complete.

### 3. Community Facilities



#### **LIBRARY SERVICES**

The applicable rules, statutes and plans that impact library services within the City include:

10. Mapping the Future: The Tigard Public Library's Strategic Plan 2005-2010
11. Tigard Community Development Code

The Tigard Public Library is the only public library within the city limits. This new facility, completed in 2004, was funded from a bond measure passed by the community in 2002. It has experienced increased use since its completion, and also provides a community center for residents to host meetings and display commissioned art. The library is part of the Washington County Cooperative Library Services (WCCLS), allowing anyone in Washington County to receive a library card and utilize the programs and materials housed in the library.

The library's strategic plan, Mapping the Future, outlines the goals and objectives until the year 2010. As with all public facilities, increased pressure will be placed on services as growth and development occurs around the community. Although library staff has historically done a good job of adjusting to increased use, future public discussions about adding another branch may be warranted if growth and usage continue at the current pace. A comparison of usage can be found in Table 3-5. Internet usage has also increased a great deal since the move to the new facility. In fiscal year 2003-04 (the last in the old facility), there were 67,803 Internet users and in fiscal year 2005-06 there were 108,133.

Funding for the Tigard Public Library comes from the City's general fund and also from levies passed for support of the WCCLS. The latest levy passed in November 2006 and will maintain current service levels for four years. The library levy is for 17 cents per \$1000 assessed value on a home.

Table 3-5. Tigard Public Library Statistics		
	FY 1996-97	FY 2005-06
Books	94,904	115,223
All Materials	104,266	137,908
Public Computers	8	65
Cardholders	38,722	32,207*
Circulation	570,784	850,326
Children's Programs	255	384
Attendance	10,146	11,990
Adult Programs	91	121
Attendance	840	1,678
Open Hours (per week)	65	55
Library Visits	206,803	373,176
*WCCLS purged the database and removed inactive cards		
Source: Tigard Public Library		

### 3. Community Facilities



#### CITY BUILDINGS AND SERVICES

The applicable rules, statutes and plans that impact city buildings within the City include:

1. City of Tigard Five-Year Strategic Resource Management Plan
2. Tigard Community Development Code

The City of Tigard is responsible for administrative and general government services essential to conducting the business of municipal government and the provision of public facilities and services. To provide these services, the City must have the personnel and facilities. There are currently eight departments (City Administration, Community Development, Engineering, Finance, Municipal Court, Public Works, Library, and Police) that are housed in a number of buildings. Most buildings with employee occupancy are located within the Urban Renewal District and will play an important role of the downtown's future. Table 3-1 displays City owned buildings, current use, and capacity.

Building	Sq Feet	Occupancy	Maximum Capacity	Use
City Hall	8,400	31	n/a	Administration
Permit Center	11,840	56	n/a	Community Development
Niche	3,240	6	n/a	Information Technology
Water Building	17,968	37*	n/a	Public Works
Police Department	12,804	67	n/a	
Senior Center	7,718	11	180	
Library	48,000	25	600	
Public Works Operations	4,320	7	n/a	
Public Works	7,200	12	n/a	
Public Works Annex	1,500	8	n/a	
Facilities Shop	500	3	n/a	
Canterbury	4,321	0	n/a	Storage
Police Modular	1,152	4	n/a	Motor Cycle Divison
City Hall / Police Modular	1,152	0	n/a	Storage
PD Storage F29	940	0	n/a	Evidence
PD Storage F28	940	0	n/a	Evidence
PD Storage F20	940	0	n/a	Storage
Wind Mill	400	0	n/a	Storage

\*This will increase to 65 in June 2007  
Source: City of Tigard Public Works

Although not all City departments are directly involved in land use planning, their provision of services is affected by growth and development. These impacts on government services must be considered during the land use application process, as well as additional facilities that would be needed to house them.

The City's Public Works Department completed a Five-Year Strategic Resource Management Plan in June 2006 that outlines operations and maintenance policies for City resources. Sustainability programs will be evaluated for their ability to extend use of City facilities and for inclusion in the Community Investment Program. This may have an impact on future renovations as it relates to the City Development Code.

### 3. Community Facilities



#### SCHOOLS

The applicable rules, statutes and plans that impact schools within the City include:

1. Tigard Community Development Code
2. Tigard-Tualatin School District Strategic Plan (Summer 2005)

Two public school districts serve the City of Tigard's school-age children: Tigard-Tualatin and Beaverton. The school district boundary dates back to 1910, prior to Tigard's incorporation. Later in the century, Tigard and Beaverton established Scholls Ferry Road as the municipal boundary, which differs from the school district boundary. Map 3-1 shows the current boundaries and school locations.

Although the school districts provide education, not the City, schools have always been linked strongly with the Tigard community. In both 1993 and 2006 city surveys, Tigard residents named schools, education or school funding as top issues for the community (ranking 6<sup>th</sup> and 4<sup>th</sup>, respectively). In addition, the Tigard Beyond Tomorrow visioning process included school district staff and highlighted education in its vision statement: for life-long learning and the responsibility of each citizens to promote and support quality education. The Tigard Beyond Tomorrow "Schools and Education" direction statement also emphasized quality education and stable funding for efficient delivery of services.

Throughout the City's history, Tigard has worked with the school districts on community issues, cooperated in the use of facilities, and provided notification of land-use decisions. Most of these efforts focus on TTSD, which owns 23 properties (189 acres) in Tigard. The Beaverton School District does not own any property within Tigard. As a result, both the City and TTSD hold a mutual interest in one another's facility planning. Future population and housing growth have a direct impact upon school capacity, future facility siting and expansion, as well as services provided. Conversely, future school expansion and facility siting impacts the City's infrastructure and service provision, including roads and associated traffic impacts. State land use goals require coordination between governments and special districts. The City notifies the districts of land-use decisions impacting their direct service area. The City Council also holds periodic joint meetings with the TTSD school board to discuss common issues.

#### Tigard-Tualatin School District

For the 2006-07 school year, the Tigard-Tualatin School District enrolled 12,300 students, an increase of 1.6% from the previous year. This growth is consistent with the previous year's growth. Six elementary schools, two middle schools, and two high schools serve Tigard residents. Table 3-X shows recent district enrollments by grade level and growth rates.

<b>Table 3-X. Tigard-Tualatin Enrollments, 2004-2006</b>					
	<b>Enrollment by Grade Level</b>			<b>Overall Enrollment</b>	
<b>School Year</b>	<b>K-5</b>	<b>6-8</b>	<b>9-12</b>		<b>Growth Rate (% Change)</b>
2004-2005	5,363	2,877	3,741	11,921	
2005-2006	5,477	2,834	3,797	12,108	1.6%
2006-2007	5,669	2,792	3,839	12,300	1.6%
Source: TTSD, November 2006					



### 3. Community Facilities

TTSD also owns the Tigard-Tualatin School District Larry Hibbard Administration Center and the First Student bus property at Hall Blvd. and Burnham St., and operates the Tigard Swim Center. In addition, the district has one charter school (M.I.T.C.H.; housed in Calvin Presbyterian Church); the Cordero School, which serves students from all over Oregon who are wards of the court; and Durham Center, an alternative school for high school juniors and seniors.

#### Future Capacity and Facilities

The Tigard area served by TTSD has few large undeveloped sites for new residential growth, which can influence the district's growth rate. TTSD projects slow, steady growth: a 4.6% increase by 2010. More detailed projections are expected from Portland State University in December 2006. Table XX includes current and projected enrollments for all schools.

Table XX. TTSD Schools Serving Tigard Residents.												
	Elementary Schools							Middle Schools		High Schools		Durham Center
	Alberta Rider	CF Tigard	Deer Creek	Durham	Metzger	Templeton	Mary Woodward #	Fowler	Twality	Tigard	Tualatin	
Year Built	2005	2004	1997	1989	2004	1965	1979	1974	1960	1953	1992	1919
Capacity	650/600	650/600	600	625	650/600	600	700	950	1000	1850**	1900	100
Enrollment (Oct 2006)	534	614	607	523	609	558	531	913	876	1974	1754	87
Projected Enrollment (2005 for 2010)	516	640	729	520	618	554	558	898	976	2111	1805	n/a
*Capacity set at 600, but extra rooms for 650 or so to accommodate special programs like Head Start												
**Does not include 16 portable classrooms												
#Includes 4 portable classrooms												
Source: TTSD, November 2006												

According to the district, these projected enrollments are based on continued housing growth on Bull Mountain, and a Portland State University assessment that noted growth in kindergarten enrollments and projected this increase to move through the grades accordingly.

Based on growth projections, the district does not have any current plans for capital improvements, although funding to create full-day kindergarten and/or reduce class size will require additional elementary classroom/portables. For future facilities, the district has purchased 20 acres on unincorporated Bull Mountain that could accommodate a new school or schools. The district is also managing its current properties by selling part of Fowler Woods, but reserving a portion for possible future school facilities.

#### Beaverton School District

In the 2006-07 school year, 37,332 students enrolled in the Beaverton School District. The Beaverton School District is one of the fastest growing districts in Oregon: the district adds more than 700 students per year (Beaverton School District newsletter, Fall 2006). Table XX shows the recent enrollments and

Table XX. Beaverton School District Enrollments, 2003-2006		
School Year	Enrollment	Growth Rate (% Change)
2003-2004	35,329	
2004-2005	35,739	1.2%
2005-2006	36,425	2%
2006-2007	37,332	2.5%
Source: Beaverton School District		



### 3. Community Facilities

growth rate. This rapid growth requires additional capacity. In November 2006, district voters passed a \$195 million bond measure to construct and upgrade Beaverton School District schools, for which district residents will pay 51 cents per \$1,000 of assessed value for 20 years.

There are no Beaverton school district properties or facilities located in Tigard. Of the six Beaverton schools that Tigard children attend (Table XX), the bond includes improvements for one location: Southridge High School will receive \$450,000 worth of retrofit to provide additional classroom space. The 2006-2010 Capital Improvement Program Project Plan does not call for any other modifications to these six schools.

<b>Table XX. Beaverton Schools Serving Tigard Residents</b>						
	McKay (E)	Nancy Ryles (E)	Scholls Heights (E)	Conestoga (M)	Whitford (M)	Southridge (H)
Year Built	1929	1992	1999	1994	1965	1999
Capacity *	406	722	738	1078	843	1784****
Enrollment **	373	640	720	1056	782	2059
Projected Enrollment for this particular school, if available and by year projected. ***	N/A	N/A	N/A	N/A	N/A	N/A
E= Elementary, M = Middle, H = High School						
* Capacity numbers given are for <i>available</i> capacity; defined as the <i>permanent</i> capacity of a school + the <i>adjusted portable</i> capacity						
** Enrollment figures are as of 10/02/06						
*** Preliminary enrollment projections will not be available until next month						
****Currently at 115% of capacity						
Source: Beaverton School District, November 2006						

#### Future Capacity and Facilities

The district projects enrollments based on past enrollment and housing construction. Currently, the district uses the following formula for tying future growth to enrollments:

Based upon these figures, the school district projects 38,360 students for 2008; 39,476 students in 2010; 42,751 in 2015; and 45,576 students in 2020. Individual school projections will be available in December 2006.

Due to expected growth, the 2006 bond also would provide land acquisition funds for a new high school and possibly a new elementary school in the southwestern area of the district, the Scholls Heights/Nancy Ryles attendance areas. The district is currently looking at potential sites in Beaverton.

<b>Table XX. Beaverton School District: Future Housing by Type and Enrollment Projections.</b>			
	<b>Future Housing by Type</b>		
<b>Enrollment Projections</b>	<b>Single-Family</b>	<b>Attached</b>	<b>Multi-Family</b>
Elementary	0.31	0.10	0.10
Middle	0.13	0.05	0.04
High	0.13	0.06	0.05
Total per household	0.57	0.21	0.19

### 3. Community Facilities



#### FRANCHISE UTILITIES

The applicable rules, statutes and plans that impact franchise utility services within the City include:

1. Tigard Municipal Code 15.06
2. Tigard Community Development Code 18.798
3. Tigard Community Development Code 18.810.120
4. Oregon Revised Statute 221.410-515

Telecommunications, electricity, and natural gas service are provided to residents and business owners within the City of Tigard by private utilities. These private utilities enter into franchise agreements with the City as outlined in Chapter 15.06 of the Tigard Municipal Code and pay an annual right-of-way usage fee to the City. The primary utility providers with franchise agreements within the community are:

##### Electricity

Portland General Electric (PGE) provides electric services to Tigard residents (residential and commercial). They do not have any generating facilities within the City, but do have five substations and high voltage power lines within the city limits.

##### Natural Gas

Natural gas is supplied by Northwest Natural Gas. There are no processing or storage facilities within the city limits, but a number of gas main lines cross the City for servicing the customer base.

##### Telecommunication (Telephone Lines)

Verizon and Qwest both provide telephone service to the community.

##### Telecommunications (Wireless)

Various telecommunication companies provide wireless service within the city limits. There are currently 17 towers that are located on land leased from either private owners or the City of Tigard. Many of the towers accommodate the equipment of differing providers through lease agreements with the tower owner.

##### Cable Television and Services

Comcast provides cable service in the City of Tigard for television and high speed Internet.

The services provided by these private companies and the associated infrastructure are essential to the community. As growth and development occurs within the community, the City must ensure that these services are available and coordinate their extension during the development process. This coordination, and cooperation between the various entities, helps to avoid conflict with current and planned infrastructure in the right-of-way. Additionally, uncoordinated utility installations in the public right-of-way may result in multiple street cuts and increased public costs to maintain curbs, gutters, streets, and sidewalks.

The placement of utilities in the public right-of-way is regulated by the Tigard Community Development Code. During the development review process, a city engineer approves plans showing the location of utilities. New development is typically required to place utilities underground unless they are already in existence above ground, or where the action would not be feasible. In certain cases, where undergrounding is not feasible and the utility crosses a public right-of-way, an in-lieu of fee may be assessed and placed into a fund that is used to move existing utilities underground elsewhere in the City.



### 3. Community Facilities

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The City has also recognized the demand for wireless communication services and adopted regulations for the facilities necessary to provide them. The infrastructure needed to support the services has a visual impact upon the community and collocation efforts are encouraged by the City to minimize that impact. Collocation is the practice of placing the communication equipment of two or more companies on one structure (wireless tower). Applicants for wireless telecommunication facilities are required to demonstrate that all other providers within the City were contacted to evaluate possible collocation efforts.

### 3. Community Facilities



#### KEY FINDINGS

##### *Schools*

- Two public school districts serve the City of Tigard's school-age children: Tigard-Tualatin and Beaverton. The school district boundary dates back to 1910, prior to Tigard's incorporation.
- In both 1993 and 2006 city surveys, Tigard residents named schools, education or school funding as top issues for the community (ranking 6<sup>th</sup> and 4<sup>th</sup>, respectively).
- TTSD, which owns 23 properties (189 acres) in Tigard. The Beaverton School District does not own any property within Tigard.
- The City and TTSD hold a mutual interest in one another's facility planning. Future population and housing growth have a direct impact upon school capacity, future facility siting and expansion, and state land use goals require coordination on land use decisions. The City notifies the districts of land-use decisions impacting their direct service area.
- TTSD estimates slow steady growth: 4.6% rate by 2010, with no additional schools planned for City limits.
- Beaverton is experiencing rapid growth and is looking for land for a future school in the southwestern quadrant, which includes schools attended by Tigard residents.
- Additional enrollment projections are expected in December 2006.

##### *Parks and Recreation*

- The system of adding parks and related land and facilities in the City has kept up with growth in the seven years since the Park System Master Plan's adoption in 1999.
- Many areas of the City are park deficient.
- Given the current density in Tigard, sufficient land for neighborhood parks is unavailable to meet the needs of underserved residential and non-residential areas.
- The City does not have a plan or document that specifically deals with trail locations and development within the Tigard community.
- The City has not been proactive in addressing gaps in the off-street pedestrian system within older neighborhoods.
- In the past, the City has followed a de facto policy of not condemning land for trails. This willing property approach has led to significant missing links in the trail system.
- The City does not operate a recreation program and is not served by a special park and recreation district. In consequence of this, residents have limited opportunities to participate in recreation programs. This deficiency includes ethno-specific activities appealing to Tigard's growing minority populations.
- Overall, City parklands are well maintained. Maintenance problems identified in the 1999 Tigard Park System Master Plan have been, or are being, addressed.
- SW Trails has identified a trail route within Northeast Tigard that includes on and off street segments and inter-connects with the City of Portland-adopted SW Communities trail network. The group proposes that this route be considered for adoption into the Tigard trail plan.
- The new Park SDC methodology sets a per-project percentage limit on the use of SDC funds. Some 63% of the cost of park improvements is assigned to non-SDC funding sources. At this time, the City does not have a stable source of revenue that can be used as the companion funding source for capital projects.
- Many of the projects identified in the Parks SDC parks capacity program are located in the Bull Mt Urban Services Area.
- In recent years, the City has developed and employed innovative methods to create more active park acreage to serve community needs. This has included making use of industrially zoned properties for park improvements.



### 3. Community Facilities

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#### *Community Facilities*

- The Tigard Public Library is the only public library within the city limits. It is a new facility, completed in 2004, that was funded from a bond measure passed by the community in 2002.
- The new library has experienced increased use since its completion and as growth and development occur in the community, additional pressure will be put on the services offered.
- The library is valued as a community center for public meetings and other events.
- Although not all City departments are directly involved in land use planning, their provision of services is affected by growth and development. These impacts on government services must be considered during the land use application process, as well as additional facilities that would be needed to house them.
- City sustainability programs will be evaluated for inclusion in the Community Investment Program and may have an impact on future building renovations as it relates to the City Development Code.
- Telecommunications, electricity, and natural gas service are provided to residents and business owners within the City of Tigard by private utilities. These private utilities enter into franchise agreements with the City as outlined in Chapter 15.06 of the Tigard Municipal Code and pay an annual right-of-way usage fee to the City.
- As growth and development occurs within the community, the City must ensure that private utility services are available and coordinate their extension during the development process.
- Uncoordinated utility installations in the public right-of-way may result in multiple street cuts and increased public costs to maintain curbs, gutters, streets, and sidewalks.
- The placement of utilities in the public right-of-way is regulated by the Tigard Community Development Code. New development is typically required to place utilities underground unless they are already in existence above ground, or where the action would not be feasible.
- Applicants for wireless telecommunication facilities are required to demonstrate that all other providers within the City were contacted to evaluate possible collocation efforts in order to try and minimize the visual impact upon the City.